FALL WATER SUPPLY SUMMARY
for
NEVADA

UNITED STATES DEPARTMENT of AGRICULTURE···SOIL CONSERVATION SERVICE,
and
NEVADA DEPARTMENT of CONSERVATION and NATURAL RESOURCES
DIVISION of WATER RESOURCES

* Data included in this report were obtained by the agencies named above in cooperation with the Federal, State and private organizations listed on the last page of this report.

AS OF
OCT. 1, 1964

UNITED STATES DEPARTMENT OF AGRICULTURE - SOIL CONSERVATION SERVICE

To Recipients of Water Supply Outlook Reports:

The climate of the cultivated and populated areas of the West is characterized by relatively dry summer months. Such precipitation as occurs falls mostly in the winter and early spring months when it is of little immediate benefit to growing crops. Most of this precipitation falls as mountain snow which stays on the ground for months, melting later to sustain streamflow during the period of greatest demand during late spring and summer. Thus, nature provides in mountain snow an imposing water storage facility.

The amount of water stored in mountain snow varies from place to place as well as from year to year and accordingly, so does the runoff of the streams. The best seasonal management of variable western water supplies results from advance estimates of the streamflow.

A snow survey consists of a series of about ten samples taken with specially designed snow sampling equipment along a permanently marked line, up to 1000 feet in length, called a snow course. The use of snow sampling equipment provides snow depth and water equivalent values for each sampling point. The average of these values is reported as the snow survey measurement for a snow course.

Snow surveys are made monthly or semi-monthly beginning in January or February and continue through the snow season until April, May or June. Currently more than 1400 western snow courses are measured each year. These measurements furnish the key data for water supply forecasts.

Streamflow forecasts are obtained by a comparison of total or maximum snow accumulation, as measured by snow water equivalent, to the subsequent spring and summer or snowmelt season runoff over a period of years. The snow water equivalent measured in selected snow courses provides most of the index to the streamflow forecast for the following season. More accurate forecasts are usually obtained when other factors such as soil moisture, base flow and spring precipitation are considered and included in the forecast procedure. Early season forecasts assume average climatic conditions through the snowmelt season.

Listed below are the Federal-State-Private Cooperative Snow Survey and Water Supply Forecast reports available for the West which contain detailed information on snow survey measurements, streamflow forecasts, reservoir storage, soil moisture and other guide data to water management and conservation decisions. Soil Conservation Service Reports may be secured from Water Supply Forecasting Unit, Soil Conservation Service, P.O. Box 2807, Portland, Oregon 97208.

PUBLISHED BY SOIL CONSERVATION SERVICE

REPORTS	ISSUED	LOCATION	COOPERATING WITH
RIVER BASINS			
Western United States	Monthly (Feb.-May)	Portland, Oregon	All Cooperators
Basic Data Summary	October 1	Portland, Oregon	All Cooperators
STATES			
Alaska	Monthly (Mar.-May)	Palmer, Alaska	Alaska S.C.D.
Arizona	Semi-Monthly (Jan.15 - Apr.1)	Phoenix, Arizona	Salt R. Valley Water Users Assoc. Ariz. Agr. Exp. Station
Colorado and New Mexico	Monthly (Feb.-May)	Fort Collins, Colorado	Colo. State University Colo. State Engineer N. Mex. State Engineer
Idaho	Monthly (Jan.-June)	Boise, Idaho	Idaho State Reclamation Engineer
Montana	Monthly (Jan.-June)	Bozeman, Montana	Mont. Agr. Exp. Station
Nevada	Monthly (Jan.-May)	Reno, Nevada	Nevada Dept. of Conservation and Natural Resources - Division of Water Resources
Oregon	Monthly (Jan.-June)	Portland, Oregon	Oreg. State University Oregon State Engineer
Utah	Monthly (Jan.-June)	Salt Lake City, Utah	Utah State Engineer
Washington	Monthly (Feb.-June)	Spokane, Washington	Wn. State Dept. of Conservation
Wyoming	Monthly (Feb.-June)	Casper, Wyoming	Wyoming State Engineer

PUBLISHED BY OTHER AGENCIES

REPORTS	ISSUED	AGENCY
British Columbia	Monthly (Feb.-June)	Water Resources Service, Dept. of Lands, Forest and Water Resources, Parliament Blog., Victoria, B.C., Canada
California	Monthly (Feb.-May)	Calif. Dept. of Water Resources, P.O. Box 388, Sacramento, Calif.

USDA SCS PORTLAND OREG 1963

FALL WATER SUPPLY SUMMARY
for
NEVADA

Report prepared by

MANES BARTON

and

ROY E. MALSOR, JR.

SOIL CONSERVATION SERVICE
1479 SOUTH WELLS AVENUE
RENO, NEVADA

OCTOBER 8, 1964

Issued by

CHARLES W. CLEARY, JR.

STATE CONSERVATIONIST
SOIL CONSERVATION SERVICE
RENO, NEVADA

HUGH A. SHAMBERGER

DIRECTOR
DEPARTMENT OF CONSERVATION AND
NATURAL RESOURCES
CARSON CITY, NEVADA

USDA-SCS-PORTLAND, OREG. 1962

FALL WATER SUPPLY SUMMARY

FOR NEVADA

October 1, 1964

Nevada's 1964 irrigation water supply was adequate for most needs. Although April-July 1964 streamflow on east slope Sierra streams was below normal, reservoired water offset most deficiencies. Humboldt basin streams produced ample water, with all forecast stations above average except for Martin Creek north of Winnemucca, and Owyhee near Gold Creek.

Crop yields are reported to have been good with three cuttings of alfalfa hay in northern and central Nevada. Potato and onion production was down due to a 50 percent reduction in acreage. Good yields are expected on 3,000 acres of sugar beets. Pastures are rated in good condition. Range forage was good during the late spring and early summer but range soils have dried out due to lack of summer precipitation.

On October 1, 1964 Nevada's seven principal reservoirs exclusive of Lake Mead and Lake Mohave held 498,000 acre feet. This is 68 percent of average and 36 percent of capacity. Wild Horse reservoir was drained during the summer in order to repair the dam. Rye Patch is the only reservoir holding above average stored water content. This is due to the above normal flow on the Humboldt this past summer.

Water demand from Truckee and Walker reservoirs was greater than usual due to the deficient April-July 1964 streamflow. As a result storage in Lake Tahoe, Lahontan, Boca, Topaz, and Bridgeport which usually drops 194,000 acre feet from May 1 to October 1 dropped 286,000 acre feet from May 1, 1964 to October 1, 1964.

Mountain soils in the Sierra and Humboldt basins are dry. The most current readings (8/11-9/17/64) taken at soil moisture stations in these basins indicate soil moisture deficiencies ranging from 1 to 5 inches in the top 3 to 4 feet in the Sierra soils and 2 to 3 inches in the Humboldt for similar soil depths. These soils have continued to dry out since the last readings were taken. Should fall rainfall prove to be deficient, appreciable quantities of snow melt water will be required next spring to prime these mountain soils.

The first 1965 Water Supply Outlook Report will be issued on January 8, 1965, to be followed by subsequent monthly reports on February 8, 1965, March 8, 1965, April 8, 1965, and May 8, 1965. These reports will contain the latest snow survey precipitation, reservoir, and soil moisture data along with April - July 1965 stream forecasts and dates of specified low flow amounts.

APRIL-JULY 1964
NEVADA STREAMFLOW FORECASTS
and
OBSERVED STREAMFLOW

The following table contains April-July forecasts made during the past winter except as otherwise noted. Observed streamflow amounts are provisional and were furnished by the U. S. Geological Survey and other agencies.

	April-July, Streamflow Thousand Acre Feet						
	Forecast						Observed
	Feb. 1 1964	Mar. 1 1964	Apr. 1 1964	May* 1 1964	Observed: Apr-July: 1964	15-Yr. Av. :1943-57:	1964 as % 15-YrAv
Owyhee R. nr. Gold Cr.,Nev.[1]	26	23	24	9 (7)	21	27	78
Owyhee R. nr. Owyhee, Nev.[1]	78	70	70	43 (47)	78	86	91
Lamoille Cr.nr. Lamoille, Nev.		21	23	22 (32)	33	28	118
So.Fk. Humboldt nr. Elko, Nev.		67	74	60 (76)	88	74	119
Humboldt R. at Palisade,Nev.	165	155	155	100 (200)	271	225	120
Humboldt R. at Comus, Nev.		100	100	60 (156)	207	143	144
Martin Cr. nr. Paradise, Nev.		12	14	9 (9)	12	17	71
E. Walker nr. Bridgeport, Calif.		35	35	27 (18)	21	61	34
West Walker below E.Fk. nr. Coleville, Calif.	120	100	95	80 (76)	86	148	58
E. Carson nr. Gardnerville, Nev.		125	115	90 (90)	113	189	60
E. Carson nr. Gardnerville, Nev. (date of 200 c.f.s. flow)		7/9	7/7	7/4	7/9	7/23	--
W. Carson at Woodfords, Calif.		35	32	23 (24)	34	54	63
Carson R. nr. Carson City, Nev.		75	70	50 (70)	87	184	47
Carson R. at Ft.Churchill, Nev.		65	60	35 (59)	70	171	41
Little Truckee R. above Boca, Cal.[3]		67	69	40 (42)	63	86	73
Truckee R. at Farad, Calif.[3,4]		200	205	130 (126)	180	255	71
Lake Tahoe[3,5]		1.00	1.00	0.70 (0.72)	0.90	1.50	60
Surprise Valley Streams		Observed data not yet available					

1. Corrected for storage in Wild Horse Reservoir.
2. For period April through August corrected for storage in Bridgeport Reservoir.
3. Forecast issued by Truckee Basin Water Committee which is composed of Truckee-Carson Irrigation District, Sierra Pacific Power Company and Washoe County Conservation District.
4. Exclusive of Tahoe and corrected for storage in Boca Reservoir.
5. Maximum rise, in feet, from April 1, assuming gates closed.

*May 1-July 31, 1964 forecast; figure in parentheses provisional observed streamflow.

NEVADA

STATUS OF RESERVOIR STORAGE

OCTOBER 1, 1964

BASIN AND STREAM	RESERVOIR	USABLE CAPACITY (1000 AF)	USABLE STORAGE - 1000 ACRE FEET			
			1964	1963	1962	15-YR AVE. 1943-57
Owyhee	Wild Horse	33	0*	23	19	12
Lower Humboldt	Rye Patch	179	100	72	78	83
Colorado	Mohave	1,810	1,341	1,406	1,349	1,397**
Colorado	Mead	27,217	11,623	17,371	23,624	19,595
Tahoe	Tahoe	732	276	396	81	467
Truckee	Boca	41	9	1	16	18
Truckee	Prosser	29***	16	19	Storage began 1/30/63	
Carson	Lahontan	286	97	165	116	121
West Walker	Topaz	59	8	28	17	17
East Walker	Bridgeport	42	8	22	17	14

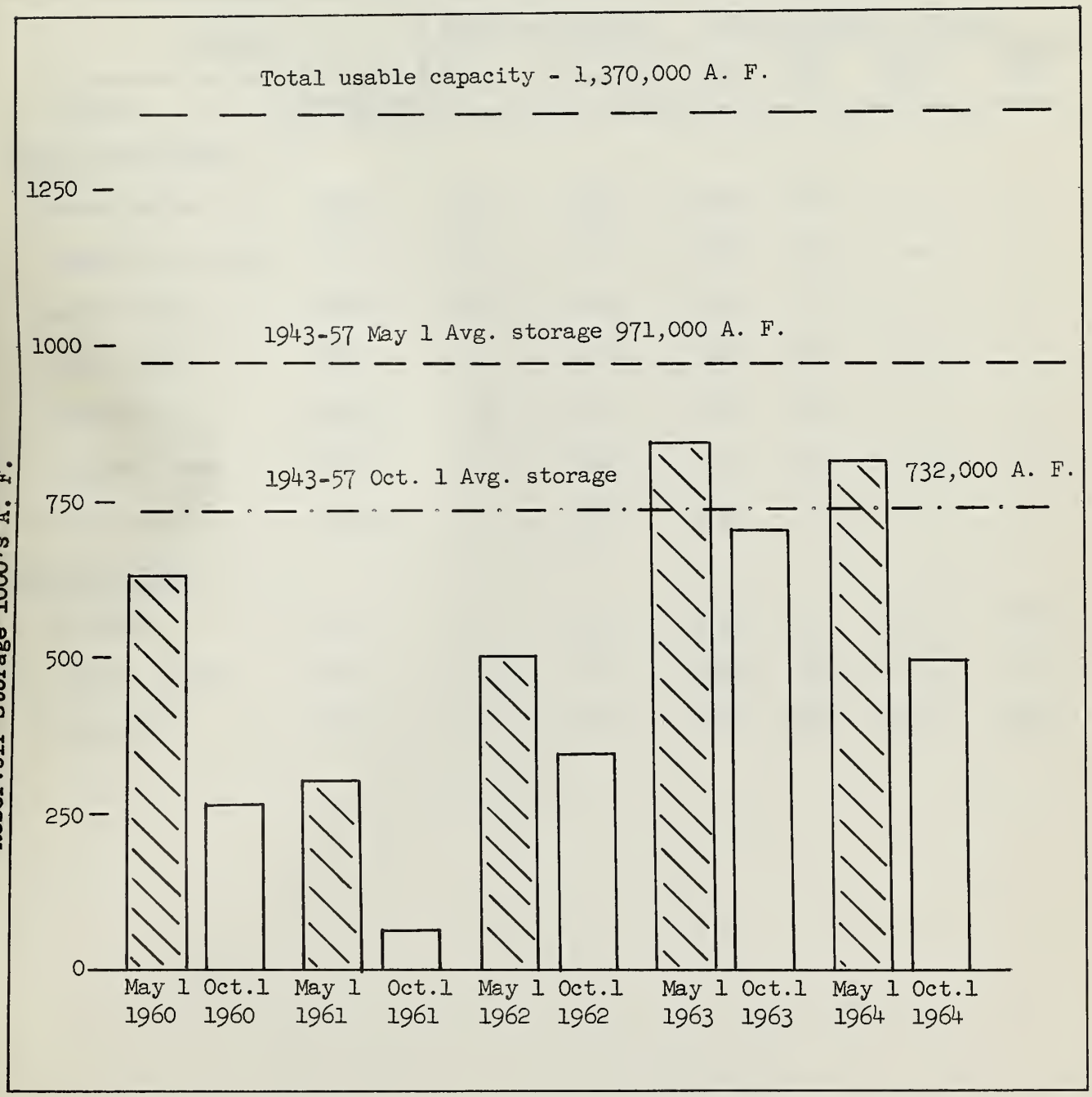
* Reservoir drained during summer to effect repairs to dam.
** 1951-57
*** Flood control use allocation of 20,000 acre feet between Nov. 1 and April 10.

NEVADA RESERVOIR STORAGE

1960-64

Based on Wild Horse, Rye Patch, Tahoe,

Boca, Lahontan, Topaz and Bridgeport Reservoir storage data.



NEVADA

SOIL MOISTURE

OCTOBER 1, 1964

STATION		PROFILE (Inches)		SOIL MOISTURE (Inches)			
Name	Elevation	DEPTH	CAPACITY	DATE	THIS YEAR	LAST YEAR	2 YEARS AGO
East Slope Sierra							
Hagans Meadow	8000	36	3.65	8/11	0.8	--	--
Independence Camp	7000	34	6.10	9/17	4.5	--	--
Marlette Lake	8000	50	3.70	8/11	2.6	--	--
Sonora Pass	8800	48	8.30	8/10	6.6	--	--
Truckee #2	6400	18	3.65	9/17	0.8	--	--
Virginia Lakes	9500	46	6.05	9/1	0.8	--	--
Ward Creek	7000	49	5.80	8/14	1.0	--	--
Humboldt Basin							
Big Bend	6700	48	16.7	8/11	14.5	14.4	14.9
Jack Cr. Lower	6800	48	8.7	8/12	6.8	7.4	7.4
Rodeo Flat	6800	42	11.0	8/12	8.3	10.0	10.1

Agencies Cooperating in Collecting Data Contained in this Bulletin

FEDERAL

- Agricultural Research Service
- Army
- Bureau of Reclamation
- Fish and Wildlife Service
- Forest Service
- Geological Survey
- Navy
- Soil Conservation Service
- Weather Bureau

STATE

- California Cooperative Snow Surveys
- California Department of Water Resources
- Colorado River Commission of Nevada
- Nevada Association of Soil Conservation Districts
- Nevada Cooperative Snow Surveys
- Nevada Department of Conservation & Natural Resources
  - Division of Water Resources
  - Nevada State Forester-Firewarden
- Oregon Cooperative Snow Surveys
- University of Nevada
- White Mountain Research Station, Univ. of California

PRIVATE

- Amalgamated Sugar Company
- Kennecott Copper Corporation
- Nevada Irrigation District
- Owyhee Project North Board of Control
- Owyhee Project South Board of Control
- Pacific Gas & Electric Company
- Pershing County Water Conservation District
- Sierra Pacific Power Company
- Squaw Valley Development Company
- Truckee-Carson Irrigation District
- Virginia City Water Company
- Walker River Irrigation District
- Washoe County Water Conservation District

Other organizations and individuals furnish valuable information for the snow survey reports. Their Cooperation is gratefully acknowledged.

UNITED STATES DEPARTMENT OF AGRICULTURE
SOIL CONSERVATION SERVICE
1479 WELLS AVENUE
RENO, NEVADA

OFFICIAL BUSINESS

POSTAGE AND FEES PAID
U. S. DEPARTMENT OF AGRICULTURE

FIRST CLASS MAIL

FEDERAL - STATE - PRIVATE

COOPERATIVE SNOW SURVEYS

Furnishes the basic data necessary for forecasting water supply for irrigation, domestic and municipal water supply, hydro-electric power generation, navigation, mining and industry

"The Conservation of Water begins with the Snow Survey"